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ROYAL BOTANIC GARDENS, KEW.

BULLETIN

OF

MISCELLANEOUS INFORMATION.

No. 2] [1916

V.—DECADES KEWENSES

PLANTARUM NOVARUM IN HERBARIO HORTII REGII CONSERVATARUM.

DECAS LXXXVII.

861. **Aethionema pseudarmenum,** *Stapf et Sprague* [Cruciferae-Lepidineae]; ab *A. armeno,* Boiss., quocum adhuc confusum est, ala siliculae lacerato-dentata distinguitur; ab. *A. Diastrophi,* Bunge, statura minore, siliculis minoribus brevius dentatis differt.

Caules 8–16 cm. longi, ut rhachis pedicellique acute papillosi. *Folia* lineari-oblonga, obtusiuscula, 0·7–1·4 cm. longa, 1·5–2·5 mm. lata, carnosula, marginibus reflexis. *Racemi* 1–1·5 cm. longi; pedicelli 2–2·5 mm. longi. *Sepala* late hyalino-marginata, 2·5–2·75 mm. longa, 1–1·4 mm. lata. *Petala* in toto 4 mm. longa, oblongo-spathulata, subtruncata vel leviter retusa, trinervia; unguis erectus, 2·5 mm. longus; lamina patula, 1·7 mm. longa, rosea, inter nervos albida, nervo medio bifurcato, ramis cum nervis lateralibus connexis, rete venularum intramarginali uniseriali. *Stamina breviora* arcuato-ascendentia, filamentis 1·5 mm. longis; stamina longiora erecta, filamentis 2·4 mm. longis basi valde unilateraliter ampliatis 0·7 mm. latis; antherae ovato-oblongae, 0·7 mm. longae, vix apiculatae. *Ovarium* oblongo-ellipticum, 1 mm. longum, 0·7 mm. latum, margine jam sub anthesi conspicue dentatum; stylus cum stigmate capitato 0·8 mm. longus. *Silicula* nondum matura supra ob alas inflexas conspicue concava, basi retusa, apice emarginata sinu triangulari quam stylo sesquilongiore.

ASIA MINOR. Anatolia, *Wiedemann;* Armenia Minor, Delidagh, *Bornmüller* 3262; Paphlagonia, Vilayet of Kastambuli, Giaurdagh, *Sintenis* 4186.

Described from a living plant cultivated at Kew under the name *A. armenum.*

862. **Arenaria roseiflora,** *Sprague* [Caryophyllaceae]; affinis *A. melandryoidi,* Edgew., et *A. napuligerae,* Franch.; ab illa caulibus magis ramosis, foliis angustioribus, floribus brevius pedicellatis, ab hac stylis duobus, ab ambabus floribus majoribus differt.

(4297.) Wt. 153—601. 1,125. 3/16. J. T. & S. G. 14.

Radices carnosi, ramosi. *Caudex* brevis, carnosus, caules plures emittens; caules decumbentes, ramosi, versus apicem ascendentes, intense rubri, pilis brevissimis deflexis instructi, parte horizontali ramulos simplices steriles vel fertiles emittente; internodia 1–3 cm. longa. *Folia* basi 1–1·5 mm. connata, primum ascendentia, demum patentia vel patula, linearilanceolata, obtusiuscula, in basin sensim angustata, 1–1·7 cm. longa, 1·5–2·5 mm. lata, usque medium vel altius ciliata, apice leviter recurva, supra concava, glabra, nervo medio impresso, subtus convexa nervo medio prominente piloso saepius rubro. *Flores* solitarii, terminales vel in cymis bifloris. *Pedunculi* 2–2·5 cm. longi, ut superiores caulium partes et pilis brevissimis acutis deflexis et aliis longioribus glanduloso-capitatis patulis muniti. *Sepala* concava, plus minusve naviformia, ambitu oblongo-lanceolata, obtusa, 0·8–1 cm. longa, explanata 2·5–3·5 mm. lata, exteriora glanduloso-ciliata, interiora latissime hyalino-marginata, omnia nervo medio extra glanduloso-piloso. *Petala* erecto-ascendentia, pallide rosea, oblanceolata, apice 1–1·5 mm. bifida, sinu angustissimo, lobulis irregulariter 2–3-dentatis, 1·6–1·7 cm. longa, 4·5 mm. lata, flabellatim polynervia. *Stamina* 10; filamenta subulata, glabra, purpurascentia, antesepala 8 mm. longa, basi bulboso-incrassata, antepetala 7 mm. longa; antherae 1·75 mm. longae. *Ovarium* oblongum, compressum, 3·5 mm. longum, 2 mm. latum; styli 2, 4–4·5 mm. longi; ovula circiter 20, utrinsecus biseriata.

China. *Forrest* 13,225. Described from a plant cultivated in the Royal Botanic Gardens, Kew.

863. **Ochna Beddomei,** *Gamble* [Ochnaceae]; *O. squarrosae,* Linn., affinis, foliis majoribus oblongis vel obovato-oblongis apice obtusis et pedicellis longioribus differt.

Arbor parva, ramulis crassis griseo-brunneis. *Folia* chartacea, oblonga vel obovato-oblonga, apice obtusa vel interdum retusa, basi attenuata, glabra, siccitate rufescentia, margine crenata, 14–20 cm. longa, 3–7 cm. lata; costa crassa; nervi primarii plus minus conspicui irregulares e secundariis vix distinguendi, omnes reticulatione conspicua e lineis parallelis formata connexi; petiolus brevissimus vix 2–3 mm. longus. *Flores* in racemis vel paniculis 1 cm. longis e ramulis anni praecedentis; pedicelli graciles, 4–5 cm. longi; calycis lobi oblongi, erecti; petala lutea, calyce paullo longiora; filamenta brevia, circiter 3 mm. longa; antherae 5 mm. longae; styli ad apicem connati. *Fructus* e drupis 3–5 disco incrassato insidentibus; drupae ovoideae, 5–6 mm. longae, laeves, nitidae.

India. Northern Circars in Ganjam and Godavari, *Gamble*; Deccan in Kurnool, Cuddapah and North Arcot, *Beddome*; Mysore, *Cameron.*

864. **Rosa lucens,** *Rolfe* [Rosaceae]; a *R. longicuspi,* Batal., ramulis novellis non villosis, foliis breviter cuspidatis, floribus laxe corymbosis, et fructibus minoribus differt.

Frutex subscandens, ramosus, 2–3 metralis. *Ramuli* glabri, brunneo-purpurei, aculeati, aculeis latis recurvis brunneo-pur-

pureis vel rubris 0·5–1 cm. longis. *Folia* 8–10 cm. longa, 5–9-foliolata; rhachis glabra, subtus parce aculeata; foliola brevissime petiolulata, ovato-elliptica vel elliptico-oblonga, acuta vel breviter cuspidata, crebre crenulato-serrata, glabra, lucida, atro-viridia, 1·5–7 cm. longa, 1·3–5 cm. lata, stipulae adnatae, anguste oblongae, 0·8–2 cm. longae, glanduloso-serratae, apice divergentes, subulatae, acuminatae. *Flores* laxe corymbosi, 3–4 cm. diametro; pedunculi circiter 2·5–3 cm. longi, crebre glandulosi. *Receptaculum* ovoideum, 5 mm. longum. *Calycis* lobi lanceolati, caudato-foliacei, glandulosi, extra puberuli, 1·3–2 cm. longi, 2 exteriores folioloso-pinnatifidi. *Petala* obovato-elliptica, 2–2·3 cm. longa, alba. *Filamenta* glabra, 5–7 mm. longa; antheris aureis. *Stylus* columnaris, 5–6 mm. exsertus. *Fructus* globosus, parce scabridus, 1–1·5 cm. diametro.

China. *Wilson* 1234.

An introduction of Mr. E. H. Wilson, which has flowered at Kew and in several other collections during the last few seasons, and which bears a considerable resemblance to *R. sempervirens*, L., and the Himalayan *R. longicuspis*, Batalin, and like them has sub-evergreen foliage. The purple branches, dark green shining leaves, and corymbs of numerous white flowers render it very attractive. The fruits ripen very late, no change of colour being visible at the beginning of November.

865. **Anotis longiflora,** *Hutchinson* [Rubiaceae-Hedyotideae]; affinis *A. ingratae*, Wall., sed calycis segmentis et corollae tubo multo longioribus facile distinguenda.

Caules robusti, prope medium circiter 3 mm. crassi, flexuosi, superne strigoso-pubescentes, demum plerumque glabri vel glabrescentes, internodiis 2–5 cm. longis. *Folia* oblongo-lanceolata vel lanceolata, acute acuminata, ad basin abrupte et cuneate attenuata, 3–8 cm. longa, 1–3 cm. lata, tenuiter chartacea vel membranacea, supra adpresse setuloso-pubescentia infra in nervis et costa patule pilosa; nervi laterales utrinsecus 7–9, arcuati, utrinque subconspicui; petioli 0·5–1·5 cm. longi, pilosi; stipulae multisectae, basi extra pilosae, segmentis lineari-filiformibus 5–6 mm. longis pilosis. *Flores* terminales, in corymbum congestum dispositi. *Receptaculum* parce pilosum. *Calycis* lobi 4, subaequales, subulato-lanceolati, acuti, 3·5–4 mm. longi, setoso-ciliati. *Corollae* tubus cylindricus, 1·2 cm. longus, 1·25 mm. diametro, superne extra parce pilosus, intus pubescens; lobi 4, oblongo-ovati, obtusi, 3 mm. longi, 1·25–1·75 mm. lati, extra setoso-pilosi. *Antherae* ad faucem insertae, inclusae, 2 mm. longae. *Stylus* exsertus, glaber, breviter bilobus. *Fructus* maturus non visus.

India. Madras: Pulney Hills, Herb. *Wight*; edge of evergreen forest, 2100 m., Sept., *Fischer* 2914 [Herb. Calcutta].

866. **Vernonia Ramaswamii,** *Hutchinson* [Compositae-Vernonieae]; affinis *V. anceps*, C. B. Clarke, sed foliis angustioribus superne obscure serrulatis differt.

Frutex trichotome ramosus; rami ascendentes, dense breviter hirsuti, superne foliati, internodiis subapproximatis. *Folia*

lineari-oblanceolata, apice subacuta, ad basin in petiolum sensim attenuata, 2–6 cm. longa, 5–8 mm. lata, subchartacea, superne obscure serrulata, inferne integra, supra glabra, infra glandulosa demum nigro-maculata, primum puberula sed demum glabrescentia; nervi laterales utrinsecus 7–8, supra leviter impressi, infra valde prominentes, intra marginem conjuncti; petioli ad 7 mm. longi, hirsuti. *Capitula* subterminalia, solitaria vel geminata, longe pedunculata, circiter 1 cm. diametro; pedunculi satis robusti, 4·5–5·5 cm. longi, dense vel subdense tomentelli, infra apicem circiter 1 mm. crassi. *Involucrum* late hemisphericum, 6–8 mm. altum; bracteae circiter 4-seriatae, glabrae, exteriores subulato-lanceolatae, acutae, interiores oblongo-lanceolatae, subacutae, margine submembranaceae. *Receptaculum* convexum, in fructu circiter 4 mm. diametro, conspicue reticulatum. *Corolla* extra puberula. *Achaenia* conspicue 5-costatae, inter costas parce pubescentia. *Pappus* duplex, albus, setis exterioribus brevissimis, interioribus gracilibus 5 mm. longis brevissime barbellatis.

India. Madras: Tinnevelly district; on the banks of streams at Naterikal, 1300 m., Feb., *Ramaswami* in Herb. Calcutta no. 38,581; Agastiyarmalai, May, *Barber* 2885.

This species shows a very obvious affinity with *V. anceps*, C. B. Clarke, which is apparently endemic to Ceylon; in the latter the leaves are broader and more coarsely toothed.

867. **Calocephalus globosus,** *Scott et Hutchinson* [Compositae-Inuloideae]; species distinctissima, a *C. lacteo*, Less., foliis filiformibus omnino alternis, inflorescentiis globosis flavis differt.

Herba annua; caules 1–2 vel plures, simplices, usque ad 17 cm. longi, gracillimi, lanati. *Folia* alterna, suberecta, filiformia, subacuta, 4 cm. longa, superne sensim minora, subteretia, plus minusve lanata. *Capitula* cylindrica, 5 mm. longa, in glomerulum densum globosum circiter 1·3 cm. diametro arcte aggregata, 4–flora, flavo-straminea. *Involucri* bracteae circiter 4-seriatae, exteriores ovato-lanceolatae, 1–2 mm. longae, interiores lineari-lanceolatae, acutae, 4–4·5 mm. longae, scariosae, glabrae. *Corollae* tubus 3 mm. longus, inferne cylindricus, superne paulum ampliatus, glaber; lobi 5, triangulares, 1·5 mm. longi. *Achaenia* dense gelatinoso-papillosa. *Pappi* setae circiter 20, albae, 1·75 mm. longae, dense plumosae.

Western Australia. Kauring, on the York–Greenhills line, *Stoward* 505.

868. **Bassia butyraceoides,** *Scott* [Sapotaceae]; a *B. butyracea*, Roxb., foliis acute acuminatis, nervis tertiariis parallelis confertioribusque, corollae lobis ad 16, staminibus 70–80, filamentis setoso-pilosis, ovario glabro differt.

Arbor cortice plus minusve rugoso, ramulis dense rufo-tomentosis. *Folia* oblongo-obovata, apice acute acuminata, acumine ad 1 cm. longo, basi attenuata, 15–25 cm. longa, 6–11 cm. lata, margine undulata, membranacea, supra nitida, utrinque glabra; costa media supra leviter impressa, infra prominens; nervi

laterales utrinsecus 16–19, a costa sub angulo 45° abeuntes, sed prope marginem adscendentes, supra distincti, infra elevati; nervi tertiarii plus minusve paralleli, undulati, utrinque elevati; petiolus 2–4 cm. longus, 2 mm. crassus, supra canaliculatus. *Flores* magni, alabastro ovati, 12 vel plures infra folia terminalia conferti, pendentes, pedicellati pedicello 1·5–2 cm. longo dense rufo-tomentoso costato. *Calycis* lobi 5, imbricati, late ovati, apice obtusi vel subacuti, 1·8–2 cm. longi, 1·8 cm. lati, indumento dense rufo-tomentoso induti. *Corollae* tubus brevissimus, basi extra pilis longis tenuibus dense indutus; laciniae ad 16, acutae, contortae, fere 2 cm. longae, plus minusve tenues, haud carnosae, ochraceae, reflexae (fide *M. S. Ramaswami*). *Stamina* 70–80, longe lanceolata, 8 mm. longa, leviter verrucosa; filamenta brevia, 1 mm. longa, pilis setosis longis induta. *Ovarium* glabrum, in disco magno 6–7 mm. longo positum; stylus glaber, longus, exsertus; ovula minuta, plana, orbicularia.

India. Assam: N.E. Frontier; Nizamghat, 160 m., *Upendranath Kanjilal* 3137 [Herb. Calcutta].

869. **Aristolochia Lawrenceae,** *N. E. Br. Bot. Mag.* t. 8650. [Aristolochiaceae]; species ab omnibus sectionis *Unilabiatarum* floribus magnis limbo oblique oblongo vel elongato ovato-oblongo distinctissima.

Caulis volubilis, glaber. *Folia* petiolata, stipulata, glabra; petiolus 5–6 cm. longus; lamina 8–11 cm. longa, 9–12 cm. lata, late et profunde cordata, apice subacuta vel obtuse rotundata, lobis basalibus late rotundatis, supra viridis, subtus glaucovirens. *Stipulae* 1–2 cm. longae, 1·5–2 cm. latae, sessiles, orbiculatae, basi cordatae, glabrae. *Pedunculi* axillares, solitarii, ovariis inclusis 12–14 cm. longi, ebracteati, glabri. *Perianthium* magnum, unilabiatum, luteo-album, pulchre brunneo-purpureo-venosum, glabrum; tubus supra basin inflatam subito refractus, parte inflata 5 cm. longa 3 cm. diametro intus prope apicem pubescente, parte superiore aequilonga subinfundibuliformi; limbus sessilis, 10–12 cm. longus, basi 7–8 cm. latus, erectus, oblique oblongus vel elongato-ovato-oblongus, apice obtusissime rotundatus. *Columna* subsessilis, leviter obconica, apice 6-loba; lobi 3 mm. longi, lanceolati, erecti, apice incurvi, obtusi. *Antherae* 6, lineares, apice basin loborum columnae attingentes. *Capsula* 10–11 cm. longa, 3·5–4 cm. diametro, oblonga, costato-hexagona, basi dehiscens. *Semina* 1·5 cm. longa, 1·3 cm. lata, plana, cuneato-obovata, subpapyracea, supra levia, subtus area centrali minute verruculosa.

Argentine. Exact locality unknown. Described from a plant sent to *Lady Lawrence*.

No other species of the *Unilabiatae* group bears any very close resemblance to this handsome species which is distinguished by the very oblique oblong tail-less limb of its large flowers.

870. **Sarcococca Wallichii,** *Stapf* [Buxaceae]; affinis *S. salignae*, Muell. Arg., et cum ea confusa, sed foliis latioribus, floribus ♂ majoribus, pedicellis fructigeris longioribus laxe bracteatis, seminibus majoribus facie carinatis distincta.

Frutex vel *arbuscula* glaberrima. *Folia* lanceolata, caudato-acuminata, 8–12 cm. longa, 2–3·25 cm. lata, laete viridia, subcoriacea, costa tenui supra inter sulcas prominula, 3–5-plinervia, nervis lateralibus suprabasales utrinque 5–7; petiolus 0·8–1·2 (rarius ad 2) cm. longus. *Flores* albidi in glomerulos axillares collecti, superiores ♂, inferiores ♀, vel ☿ in axillis 2–nati; pedicelli ♂ brevissimi, ♀ florentes nutantes, 3–5 mm. longi, fructiferi 6–9 mm. longi, bracteis demum valde dissitis; bracteae ovatae, acuminatae, ciliolatae, ad 1·5 (raro 2) mm. longae. *Perianthii* ♂ sepala 4, late ovata vel elliptica, obtusa, ad 4·5 mm. longa, minutissime ciliolata. *Stamina* 4, filamentis 5 mm. longis, antheris fere 2 mm. longis. *Perianthii* ♀ sepala ovata, acuta, ad 2 mm. longa, minutissime ciliata; stigmata 3, vix 2 mm. longa, revoluta. *Fructus* ovoidei, vel ovoideo-globosi, atro-purpurei, 0·8–1·2 cm. longi. *Semina* atra vel atro-fusca, nitida, obovoidea, 8 mm. longa, facie carinata—*Sarcococca saligna* et *S. coriacea*, Muell. Arg. in DC. Prodr. vol. xvi. p. 11, excl. syn. *S. prunifolia*, Hook. f., Fl. Br. Ind. vol. 267 (pro parte).

Nepal. Without precise locality, *Wallich* (1821) in Herb. Hook.; north slopes of Phalut and valley of Tambur river, *J. D. Hooker*.

VI.—DIAGNOSES AFRICANAE: LXV.

1561. **Monodora Stocksii**, *Sprague* [Anonaceae]; affinis *M. Veithii*, Engl. et Diels, a qua foliis sub anthesi majoribus apice rotundatis vel apiculatis nec acutis, petalis exterioribus apice subrotundatis margine leviter undulato nec apiculo undulato instructis, petalis interioribus conspicue cuspidatis recedit.

Arbor 15 m. alta, cortice rugoso griseo. *Ramuli* annotini cinerei, rugosuli, manifeste lenticellati, 2·5 mm. diametro 15 cm. infra apicem, glabri; ramuli novelli basi perulati, perulis exterioribus margine ciliolato excepto glabris, interioribus extra densissime sericeis, dense patule pilosi. *Folia* nondum matura, oblonga vel obovato-oblonga, 4–6·5 cm. longa, 1·7–3 cm. lata, basi subcordata, apice rotundata, retusa vel apiculata, utrinque in nervis et subtus densius subappresse pilosa; nervi laterales utrinque circiter 11; petioli 2–3 mm. longi. *Flores* solitarii, circiter 8 cm. diametro. *Pedunculi* ex gemmis perulatis propriis vel ex parte inferiore ramulorum novellorum orti, 2–2·7 cm. longi, dense pilosi; bracteola 0·5–1 cm. infra apicem pedunculi sita, basi amplexicaulis, ovato-orbicularis, rotundata, valde concava, circiter 7 mm. diametro, extra dense sericea, intus glabra. *Sepala* lanceolato-oblonga, 1·3–1·4 cm. longa, 5–6 mm. lata, valde crispata, viridia, brunneo-maculata, extra densiuscule pilosa, intus glabra. *Petala exteriora* anguste oblonga, 4·2–4·8 cm. longa, circa medium leviter angustata, apice irregulariter obtusa vel rotundata, supra basin rotundata, valde

crispata, intense lutea, apice rubra, basi alba, superne 0·9–1·2 cm., circa medium 7 mm., inferne 1–1·1 cm. lata. *Petala interiora* ungue 5 mm. longo 2 mm. lato; limbus late deltoideo-reniformis, apice cuspidatus, 7–8 mm. longus, 1·1–1·2 cm. latus, utrinque intus grossius appresse pilosus, cuspide 1·5–2 mm. longo. *Antherae* oblongae, in basin paullulum angustatae, 0·8 mm. longae, connectivo apice applanato-capitato minute piloso loculis aequilato.

Tropical Africa. Portuguese East Africa: Moçimbua, *Stocks* 96.

1562. **Malvastrum puniceum,** *Jesson* [Malvaceae]; *M. capensi,* Garcke, arcte affinis, sed planta fere glabra, floribus minoribus, colore fusciore, petalorum ungue breviore, bracteolis saepe 4, sepalis abrupte acuminatis vel subacutis facile distinguenda.

Planta frutescens. *Ramuli* cortice rubro vel rubro-brunneo instructi, pilis albidis parcis obtecti. *Folia* ovato-oblonga, apice obtusa, basi subacuta, 2–4 cm. longa, 1·3–2·7 cm. lata, utrinque glabra, plus minusve trilobata, lobo medio longissimo, lobis lateralibus rotundis vel obsoletis, margine inequilateraliter dentata, nervis lateralibus 3–4 subtus prominulis; petiolus circiter 3–7 mm. longus, pilis parcissime instructus; stipulae parvae, lanceolatae, acutae. *Pedunculi* axillares, 1-flori, 1·5–3 cm. longi. *Flores* punicei. *Involucra* 3–4-foliata, foliis 5 mm. longis linearibus acutis. *Sepala* obovata, abrupte acuminata, 7 mm. longa, 5 mm. lata, pubescentia. *Petala* plus minusve imbricata, 1 cm. longa, 1·3 cm. lata. *Fructus* 5 mm. diametro, carpellis transverse rugosis, seminibus reniformibus.

South Africa (?)

The plant described above was received from Sir John Ross of Bladensburg, Rostrevor, Ireland, where it flowered in August, 1915. Sir John originally received the plant from Glasnevin under the name of *M. capense.*

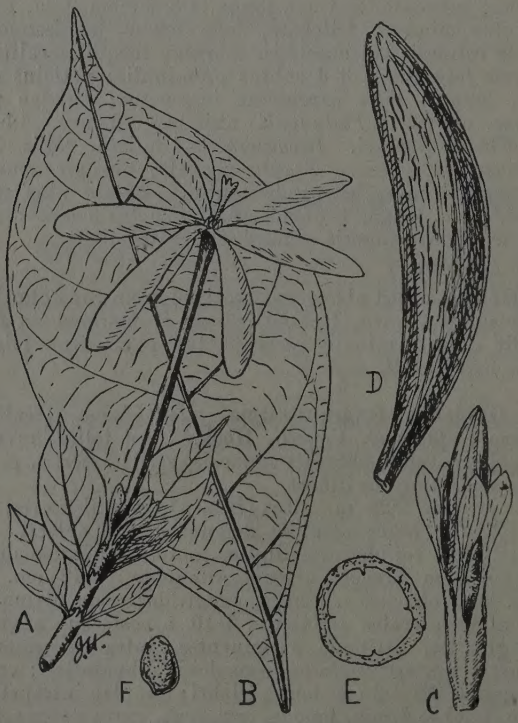
1563. **Gardenia fragrantissima,** *Hutchinson* [Rubiaceae–Gardenieae]; affinis *G. Vogelii,* Hook.f., sed foliis brevioribus, calycis lobis spatulato-obovatis foliaceis, stylis exsertis, fructibus brevioribus et latioribus differt.

Frutex circiter 2·25 m. altus (*Brown*); ramuli breves, cortice cinereo primum parce setuloso demum glabro obtecti. *Folia* oblongo-elliptica vel obovato-elliptica, obtuse caudato-acuminata, basi in petiolum brevem alatum attenuata, 4–12 cm. longa, 2–4·5 cm. lata, chartacea, glabra, subnitida; costa utrinque prominens; nervi laterales utrinsecus 5–10, a costa sub angulo lato arcuati, graciles, utrinque prominentes, intra marginem conjuncti; nervi tertiarii utrinque conspicui, subparalleli; veni prominuli; petioli 0·3–1·3 cm. longi, glabri; stipulae intrapetiolares, tubulosae, bilobae 5 mm. longae, coriaceae, extra parce setulosae. *Flores* solitarii, sessiles, subpraecoqui. *Receptaculum* oblongum, glabrum. *Calyx* tubulosus; tubus 1 cm. longus, glaber; lobi 6, foliacei, spatulati, 1·5 cm. longi, 4–6 mm. lati, chartacei, promi-

nenter 6–7-nervi, glabri. *Corolla* alba, fragrantissima; tubus cylindricus, 8–9 cm. longus, sicco et complanato 3 mm. latus, extra glaber, intus adpresse pilosus; lobi 6, lineari-oblongi, obtusissimi, prominenter striati, 4·5–5 cm. longi, circiter 1 cm. lati, glabri. *Antherae* fere inclusae, 1 cm. longae. *Stylus* breviter exsertus, apice crassus et trilobulatus, infra apicem breviter pubescens. *Fructus* durus, sessilis, fusiformis, longitudinaliter rugosus, 7–9 cm. longus, 1·8–2 cm. diametro, exocarpio 2·5 mm. crasso, endocarpio tenue nitido; placentae 4, tenues; semina complanata, suborbicularia, arcte maculata, 4 mm. lata.

Tropical Africa. Sierra Leone: near Kambia, Scarcies river, Jan., fr., *Scott Elliot* 4410; Makump, July, fl. and fr., *Thomas* 934; Jigaye, Sept., *Thomas* 2483. Gold Coast: Insunam, Jan., fl., *T. W. Brown* 132.

This species is very similar in general appearance to *G. Vogelii*, Hook. f., from the Southern Provinces, Nigeria, but is easily separated by the characters given above. According to T. W. Brown the flowers are white and very fragrant.



Gardenia fragrantissima.

A. Flower, × ½; B. Leaf, nat. size; C. Flower-bud, nat. size; D. Fruit; E. Section of same showing the four placentae, nat. size; F. Seed, × 2½.

1564. **Microlecane carinata,** *Hutchinson* [Compositae-Helianthoideae]; affinis *M. abyssinicae,* Benth., sed pedunculis glabris, involucri bracteis exterioribus longioribus glabris, interioribus dorso lacerato-carinatis nec pubescentibus differt.

Herba usque ad 1 m. alta; caulis erectus, basi lignosus, subteres, glaber, internodiis 5–10 (plerumque 7–8) cm. longis. *Folia* opposita, profunde bipinnatisecta, 4–7 cm. longa, usque ad 3 cm. lata, segmentis linearibus subacutis glabris; petioli basi amplexicaules. *Capitula* laxe corymbosa; pedunculi gracillimi, usque ad 7 cm. longi. *Involucri* bracteae 2-seriatae, bracteis exterioribus circiter 10 foliaceis linearibus subacutis vel fere obtusis 4–4·5 mm. longis 0·75 mm. latis, interioribus basi connatis ovatis subobtusis 3·5 mm. longis 2·5 mm. latis medio subcarnosis marginibus late membranaceis dorso lacerato-carinatis. *Flores radii* circiter 7, flavi, 2–2·5 cm. expansi; corollae tubus brevissimus, glaber; limbus oblongo-ellipticus, apice minute 5-denticulatus, 1 cm. longus, 0·6 cm. latus, 10-nervius. *Flores disci* numerosi; corollae tubus inferne cylindricus, superne leviter ampliatus, 2 mm. longus, glaber; lobi ovati, subobtusi, 0·75 mm. longi; antherae 1·25 mm. longae. *Achaenia* ambitu late obovoidea, leviter compressa, 0·4 mm. longa, glabra. *Pappus* nullus. *Receptaculi* squamae ellipticae, 3 mm. longae, 1·5 mm. latae, membranaceae, conspicue trinerviae, glabrae.—*Microlecane sp.*? Oliver & Hiern in Oliv. Fl. Trop. Afr. vol. iii. p. 386, in obs.; *M. var. forma elongata, etc.*, Vatke in Linnaea, vol. xxxix. 497.

Tropical Africa. Abyssinia: Gondar and vicinity, *Massey* 74; near Gaffat, *Schimper* 1386. Uganda: Gangi, base of rocks near cultivation, *Grant.*

1565. **Utricularia papillosa,** *Stapf* [Lentibulariaceae]; e grege *U. tribracteatae,* Hochst., sed pedunculo, bracteis, bracteolis, calyce papilloso-puberulis insignis.

Herba terrestris, delicata, nana, 4–8 cm. alta, rhizoideis e pedunculi basi ortis filiformibus fasciculatis brevibus. *Folia* et utriculi ignota. *Pedunculus* erectus, filiformis, simplex, superne papilloso-puberulus, 1–3-florus, floribus distantibus; bracteae basi gibbosulae bracteolaeque simillimae, aequilongae, ovatae vel ovato-lanceolatae, breviter acuminatae vel acutae, 0·5–1 mm. longae, inferiores steriles, omnes papilloso-puberulae; pedicelli ad 1 mm. longi, saepe breviores. *Sepala* subaequalia, nisi superius longius, sub anthesi circiter 1·5 mm. longa, demum aucta, interdum ad 3 mm. longa, late elliptico-ovata, subobtusa vel superius acutum et saepe ob apicis margines inflexos spurie acuminatum, eodem indumento ac bracteae. *Corolla* purpurea, 4–5 mm. longa; labium superum e basi dilatata lineari-oblongum, emarginatum, quam sepalum superum duplo longius; labium inferum subquadratum, deflexum, ad 3 mm. longum, crenulatum, ad fauces palati erecti minute tuberculato-costatum; calcar rectum vel leviter curvatum, horizontale, e basi lata tenue, subacutum, labium inferum fere duplo superans et ei parallelum.

Filamenta brevia, filiformia. *Stigmatis* labium inferum rotundatum. *Capsula* ellipsoideo-globosa, 2·5 mm. longa.

Tropical Africa. Nigeria: Northern Provinces; In bush pools near Abinsi, *Dalziel* 731, 732.

1566. **Caralluma carnosa,** *Stent* [Asclepiadaceae], affinis *C. acutilobae*, N.E. Br., sed caulibus carnosis majoribus, corolla campanulata lobis latioribus, corona exteriore gynostegium longe excedente praecipue distinguitur.

Caules erecti vel ascendentes, basi ramosi et decumbentes, 6–15 cm. alti, usque ad 4·5 cm. diametro, superne leviter angustati, glabri, griseo-virides, brunneo-purpureo-maculati, quadrangulares; anguli dentibus patentibus acutis apice callosis usque ad 1·25 cm. longis instructi. *Flores* 1–3 aggregati, inter angulos irregulariter dispositi. *Alabastra* subglobosa, angulis in dentes 5 productis; pedicelli 1–2 mm. longi. *Sepala* ovata, acuminata, 4 mm. longa, glabra, margine membranacea, viridi-flava, intus indistincte lilacino-maculata. *Corolla* 7–9 mm. longa, 0·8–1 cm. diametro, campanulata, carnosa, viridi-lilacina, extra indistincte purpureo-maculata, intus intense cremea, dense papilloso-verrucosa, atrorubro-maculata, in tubo distinctissimo maculis minoribus; annulus pentagonus, pulvinatus, valde sulcatus; lobi deltoidei, acuti, rigide erecti, 5 mm. longi, 5 mm. lati. *Corona exterior* crateriformis, 3 mm. longa, gynostegium excedens, lobis cremeis purpureo-maculatis coronae interiori lateraliter adnatis. *Coronae interioris* lobi ligulati, dorso carnoso-gibbosi, incumbentes, antheras haud excedentes, 1 mm. longi, cremei, purpureo-maculati, margine maculis interdum in lineam purpuream confluentibus.

South Africa. Transvaal: Zilikats Nek; Magaliesberg Range, *I. B. Pole Evans*, U.D.A. Herb. No. 11,020.

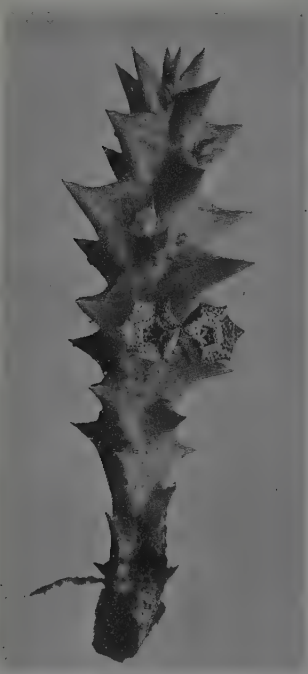
The plate (Plate I.) is from photographs taken in the garden of the Botanical Laboratory, Pretoria, by Mr. Pole Evans, Feb. 1914. The plants were collected at Zilikats Nek.

1567. **Struthiola ericoides,** *C. H. Wright* in Dyer, Fl. Cap. vol. v. sect. 2, p. 34, anglice [Thymelaeaceae-Euthymelaeeae]; species ex affinitate *S. erectae*, Linn., foliis oblongis obtusis crassis quadrifariis differt.

Rami primum dense pubescentes, demum glabri prominente cicatricosi, internodiis brevibus. *Folia* stricte quadrifaria, oblonga, 5 mm. longa, 1·5 mm. lata, obtusa, primum ciliata. *Flores* axillares prope caulis apicem; bracteolae 1 mm. longae, lanceolatae, obtusae, costa crassa, marginibus membranaceis ciliatisque. *Calyx:* tubus glaber, 9 mm. longus, supra gradatim ampliatus; lobi ovati, 2 mm. longi, 1·5 mm. lati, obtusi. *Petala* 8, quam calycis lobi dimidio breviora, crassa, pilis circumdatis superantia. *Antherae* connectivo acuminato instructae. *Ovarium* oblongum, glabrum; stylus filiformis, 6 mm. longus; stigma penicillatum.

South Africa. Riversdale Div.; Milkwoodfontein, 183 m., *Galpin* 4509.

PLATE I.



CARALLUMA CARNOSA.

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1568. **Struthiola floribunda,** *C. H. Wright* in Dyer, Fl. Cap. vol. v. sect. 2, p. 35, anglice [Thymelaeaceae-Euthymelaeeae]; species *S. longiflorae*, Lam., affinis, foliis oblongis obtusis pilosis differt.

Caulis ramosus; rami primum pubescentes. *Folia* opposita, approximata, oblonga, obtusa, 7 mm. longa, 1·5 mm. lata, primum pilosa, demum dorso verrucosa. *Flores* axillares, secundum ramos dispositi; bracteolae 6 mm. longae, 0·6 mm. latae, oblongae, obtusae, longe ciliatae. *Calyx:* tubus pubescens, 1·7 cm. longus, tenuis; lobi oblongi, obtusi, 5 mm. longi, 2 mm. lati. *Petala* 8, oblonga, 1·5 mm. longa, pilis aequilongis circumdata. *Antherae* obtusae. *Ovarium* oblongum, glabrum; stylus filiformis, 9 mm. longus; stigma penicillatum.

South Africa. Clanwilliam Div.; Zekoe Vley, *Schlechter* 8506. Without precise locality, *MacOwan* 2470.

1569. **Struthiola Schlechteri,** *Gilg* ex *C. H. Wright* in Dyer, Fl. Cap. vol. v. sect. 2, p. 34, anglice [Thymelaeaceae-Euthymelaeeae]; species *S. leptanthae*, Bolus, affinis, foliis imbricatis non patentibus oblanceolatis differt.

Frutex ramosissimus. *Rami* primum pubescentes, demum glabri prominente cicatricosique. *Folia* imbricata, oblanceolata, 6 mm. longa, 1·5 mm. lata, pilis distantibus uniserialibus marginata, pilorum coma alborum terminata. *Flores* in axillis foliorum superiorum dispositi; bracteolae oblongae, foliis paullo longiores, 0·5 mm. latae, induplicatae. *Calyx:* tubus pubescens, 1·4 cm. longus, tenuis; lobi 4 mm. longi, 2 mm. lati, oblongi, acuti. *Petala* 8, purpurea, crassa, 1·5 mm. longa, pilis albidis brevioribus circumdata. *Antherae* 1 mm. longae, apiculatae. *Ovarium* oblongum, glabrum; stylus filiformis; stigma penicillatum.

South Africa. Calvinia Div.; Oorlogs Kloof, 670 m., *Schlechter* 10960.

1570. **Struthiola flavescens,** *Gilg* ex *C. H. Wright* in Dyer, Fl. Cap. vol. v. sect. 2, p. 35, anglice [Thymelaeaceae-Euthymelaeeae] species *S. rustianae*, Gilg, affinis, calyce pubescente differt.

Rami rubescentes, primum breviter pubescentes, mox glabrescentes. *Folia* imbricata, lanceolata, obtusa, 0·7–1·2 cm. longa, 2 mm. lata, glabra marginibus dense albo-ciliatis exceptis, coriacea. *Flores* in axillis foliorum superiorum dispositi, quam folia paullo longiores; bracteolae ovatae, obtusae, 2 mm. longae, apice albo-ciliatae, marginibus parte inferiori hyalinis. *Calyx* pubescens; tubus 7 mm. longus, apice 1 mm. diametro; lobi late ovati, acuti, 1 mm. longi. *Petala* 8, oblonga, quam calycis lobi breviora, pilis longioribus circumdata. *Antherae* oblongae, acutae, 1 mm. longae. *Ovarium* oblongum, glabrum; stylus filiformis, quam calyx brevior; stigma penicillata.

South Africa. Cape Div.; Devil's Peak, 581 m., *Kuntze.*

VII.—TWO LITTLE-KNOWN SOUTH AFRICAN EUPHORBIAS.

N. E. Brown.

(With Plate.)

Euphorbia pubiglans, *N. E. Brown* (see Plate II. fig. 1). This species is similar in general appearance to *E. clava*, Jacq., for which it has probably been mistaken, as dried specimens of it have been distributed mixed with *E. clava*. It differs from that species, as the figure shows, by the stem being covered with densely crowded subhemispherical tubercles, in the much shorter peduncles, and in the outside of the involucre being puberulous. It is also apparently a smaller plant, the stems of the specimens seen being only 3½–12 in. high and 1½–2 in. thick, with linear glabrous leaves ¾–1½ in. long, having the margins inrolled or folded together, and peduncles ⅔ 2½ in. long, bearing a whorl of 5 large bracts at the apex, forming a saucer-shaped cup ¾–1 in. in diameter surrounding the involucre.

The photograph, here reproduced, represents the plant about two-thirds the natural size, and was sent to Kew by Mr. J. L. Drège of Port Elizabeth, South Africa, of which locality the plant is a native.

Euphorbia enopla, *Boiss.* (Plate II. fig. 2). Although this species was described over 50 years ago, it has hitherto been very imperfectly known, as the original description is very unsatisfactory, having been made from mere scraps of branches collected by J. F. Drège, and the statement in De Candolle's Prodromus, vol. xv. pt. 2, p. 89, that it is a shrub 2–3 ft. high is not borne out by the original label or by the specimens. The photograph of the plant, here reproduced, sent to Kew by Mr. J. L. Drège, a grandson of its discoverer, shows the plant to be about one foot high, the picture being about one-third of the natural size. The *E. enopla* of Berger's Sukkulente Euphorbien, p. 93, is *E. heptagona*, Linn., and quite different from the true *E. enopla*, Boiss.; whilst the *E. heptagona* of that work is *E. pentagona*, Haw.

The branches of *E. enopla* are ⅞–1¼ in. thick and 6–7-angled. Its fierce-looking spines are modified peduncles, varying from ½–2½ in. in length, and are at first very dark red, becoming blackish-purple and finally grey. The flowering peduncles are from ¼–1 in. long, and bear one very dark red involucre.

It is a native of South Africa, growing on the Witte Poort Mountains, in Willowmore Division, and on the Karoo, near Waterford and Aberdeen Road in Jansenville Division.

VIII.—CLEMATIS MEYENIANA.

T. A. Sprague.

The type specimens of *Clematis Meyeniana* were gathered by Meyen on the north-west coast of Lantao Island, near Hongkong,*

* Meyen, Reise um die Erde, vol. ii. pp. 189, 292.

PLATE II.

I.

II.

Fig. I. EUPHORBIA PUBIGLANS. *Fig.* II. EUPHORBIA ENOPLA.

[*To face page* 44.

and were described by Walpers in 1843.* The distribution of the species and its varieties was extended by subsequent authors to Hupeh and Chekiang in the north, the Liukiu Islands, Formosa and Luzon in the east, Yunnan in the south-west, and Hainan and Indo-China in the south.† The wide conception of the specific limits and geographical distribution of *C. Meyeniana* which had thus obtained currency was accepted by Finet and Gagnepain in their revision of Asiatic species of *Clematis*; they separated the Hainan and Indo-Chinese material, however, as a distinct variety *granulata*.‡

Although this treatment of *C. Meyeniana* may be justifiable on theoretical grounds, and convenient in a monographic study, there is nevertheless much to be said for segregating two or three species from it in local floras and for horticultural purposes. The most distinct of these is *C. granulata*, J. R. Drumm. (var. *granulata*, Finet & Gagnep.), which may be distinguished at the first glance by the peculiar texture and surface of the leaflets, and which is not at present known to be connected with typical *C. Meyeniana* by any intermediate forms. *C. Pavoliniana*, Pampanini, § has also strong claims to specific status, and has been accepted as a distinct species by Rehder and Wilson.‖ A specimen collected by Fortune at Amoy, however, though undoubtedly referable to *C. Pavoliniana*, does not differ much from certain specimens collected in Formosa and Luzon; and these in their turn are linked up with typical *C. Meyeniana* by other specimens from the Liukiu Islands and Luzon respectively. For this reason it appears desirable to adopt the wider conception of *C. Meyeniana* in the present paper, and to recognise three varieties and two forms which may be distinguished as follows:—

A. Inflorescence a thyrse; rhachis and pedicels more or less pilose; sepals not distinctly longer than the stamens, usually not distinctly mucronate when expanded:
  Leaves smooth:
    Sepals not retuse ... *C. Meyeniana* (type).
    Sepals retuse ... ... forma *retusa*.
  Leaves roughened on both surfaces with raised points ... ... var. *granulata*.

B. Like A, except that the sepals are much longer than the stamens ... ... forma *major*.

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* Nov. Act. Nat. Cur. vol. xix. Suppl. 1, p. 297; Walp. Rep. vol. v. p. 3.

† Benth. Fl. Hongkong. p. 6; Maxim. in Mél. Biol. vol. ix. p. 597; Ind. Fl. Sin. vol. i. p. 5; Franch. Pl. Delav. p. 2; Diels in Engl. Jahrb. vol. xxix. p. 332; Ito et Matsum. in Journ. Coll. Sc. Tokyo, vol. xii. p. 271; Matsum. et Hayata, Enum. Pl. Formos. p. 5; Merrill et Rolfe in Philipp. Journ. Sc. vol. iii. p. 98.

‡ Bull. Soc. Bot. France, vol. l. p. 530; Lecomte, Fl. Gén. Indo-Chine, vol. i. p. 4.

§ Nuov. Giorn. Bot. Ital. n.s. vol. xvii. p. 270.

‖ Sargent, Pl. Wils. vol. i. p. 328.

C. Inflorescence a thyrse or a raceme, or reduced to 3 flowers; rhachis and pedicels glabrous; sepals distinctly longer than the stamens, mucronate when expanded ... var. *insularis.*

D. Inflorescence a raceme, or reduced to 3 flowers; rhachis and pedicels glabrous; sepals distinctly longer than the stamens, usually not distinctly mucronate when expanded ... ... var. *Pavoliniana.*

Clematis Meyeniana, *Walp.* in Nov. Act. Nat. Cur. vol. xix. Suppl. 1, p. 297 (1843); Walp. Rep. vol. v. p. 3; Benth. in Hook. Kew Journ. Bot. vol. iii. p. 256; Fl. Hongk. p. 6; Seem. Bot. Voy. Herald, p. 361. *C. oreophila,* Hance in Walp. Ann. vol. ii. p. 3. *C. Hothae,* Kurz, For. Fl. Brit. Burma, vol. i. p. 17.

The original descriptions of *C. Meyeniana* and *C. oreophila* apparently correspond respectively to lower and upper portions of the plant. The sepals are usually acute or obtuse, rarely mucronate.

China. Lantao, *Meyen* (not seen). Hongkong, *Champion, Wright* 2, *Hance* 486; Victoria Peak, *Urquhart.* Islands near Macao, *Vacheli* 254. Kwangtung, *Ford* 5; Canton,* *Fortune* 51. Fokien: Amoy Interior, *Swinhoe.* Yunnan: Szemao, in forests, 1350 m., *Henry* 12270. China, without locality, *Millett.*

Upper Burma. Hotha, east of the Kachin Hills, *Anderson.*

Forma **retusa,** *Sprague*; sepalis retusis, foliolis crassis ellipticis vel ovatis distinguitur.—*C. Meyeniana,* Hook. f. Bot. Mag. t. 7897, excl. syn.

Locality unknown. The plant is stated to have been received from the Hongkong Botanic Garden in 1885.

Forma **major,** *Sprague;* sepalis quam staminibus multo longioribus saepe retusis distinguitur.—*C. Craibiana,* Lace in Kew Bull. 1915, p. 395.

Kwantung. *Ford* 5a, *Ford,* Aug. 1887 (cult. in Hort. Kew. 1895); Lofoushan, *Ford* 103; North River, *Ford* 166 (type of the form). Upper Burma, Maymyo Plateau, *Lace* 6122 (inflorescence glabrescent).

Var. **granulata,** *Finet et Gagnep.* in Bull. Soc. Bot. France, vol. l. p. 530; Lecomte, Fl. Gén. Indo-Chine, vol. i. p. 4.

Hainan. *Henry* 8087, 8682. Indo-China: Tonkin; Laokai, *Wilson,* 2674. Laos; La-kon, *Harmand*—also recorded from Annam by Finet and Gagnepain, l.c.

Var. **insularis,** *Sprague;* inflorescentia glabra saepius racemosa vel triflora, sepalis quam staminibus manifeste longioribus

* teste Maximowicz in Mél. Biol. vol. ix. p. 597.

mucronatis distinguitur.—*C. Meyeniana*, Ito et Matsum. in Journ. Coll. Sc. Tokyo, vol. xii. p. 271; Matsum. et Hayata, Enum. Pl. Formos. p. 5; Merrill et Rolfe in Philipp. Journ. Sc. vol. iii. p. 98.

Liukiu Islands. *Wright* 1. Formosa. Tamsuy, *Oldham* 1 (type of the variety). Luzon. *Merrill* 4777, *Loher* 4.

Wright 1 and Loher 4 have the inflorescence a thyrse, and in this respect form a transition to typical *Meyeniana*.

Var. **Pavoliniana**, *Sprague*.—*C. Pavoliniana*, Pampanini in Nuov. Giorn. Bot. Ital. n.s. vol. xvii. p. 270; Rehder et E. H. Wils. in Sarg. Pl. Wils. vol. i. p. 328; Sprague in Bot. Mag. t. 8655, ined.

Szechuan. *Faber* 736. Hupeh. Near Ichang, *Henry* 714, 2744, 3529, 3529a; western Hupeh, *Wilson* 2a, 674, 416 (Arn. Arb.) Kiangsi. Kiukiang, *Shearer*. Chekiang. Ningpo, *Hancock* 15. Fokien, Amoy, *Fortune* 14; Foochow, *Carles* 559.

In conclusion it may be pointed out that much of the difficulty experienced in classifying the species and varieties of *Clematis* is due to the incompleteness of the specimens available for examination. The leaves and even the inflorescences often show considerable differences according to the part of the plant on which they are borne, and care should therefore be taken by collectors to obtain a *series* of specimens from the various parts of a single plant. Fruiting specimens and ripe achenes should, whenever possible, be gathered from a marked plant, from which flowering specimens have been previously obtained. In cases where the lateral shoots bear scale-leaves at the base, a specimen should be selected consisting of a piece of the main stem with at least two pairs of leaves and as much of the lower part of the lateral shoot as can be dried conveniently on the same sheet. Such a specimen will show the length of an internode of the main stem, and the base of the branch.

Although *C. Meyeniana* has been placed by Finet and Gagnepain among the eperulate species, it appears to have scale-leaves (perulae) at the base of its lateral shoots. In fact the difference between the "perulate" and "eperulate" groups of these authors does not seem to consist in the presence or absence of perulae, but in the inflorescences being borne on much-contracted leafless or leafy short-shoots in the former and on leafy long-shoots in the latter. The perulae are, however, naturally more numerous and more in evidence in the former group.

One variety, *Clematis Meyeniana* var. *heterophylla*, Gagnep.,* remains to be dealt with. This has very large flowers and quinquefoliolate lower leaves, and has been referred to *C. quinquefoliolata*, Hutchinson† by Rehder and Wilson.‡ It is a native of Hupeh and Szechuan.

* Vilmorin et Bois, Fruticet. Vilmorin.. Cat. Primar., pp. 2–3, cum ic.
† Gard. Chron. 1907, ser. 3, vol. xli. p. 3.
‡ Sargent, Pl. Wils. vol. i. p. 328.

IX.—EPIDENDRUM SECUNDUM AND E. ELONGATUM.

R. A. Rolfe.

A good deal of confusion centres round the species known under the names of *Epidendrum secundum*, Jacq., and *E. elongatum*, Jacq., and as the latter has recently been renamed *E. sulfuratorium*, E. H. L. Krause, it seems desirable that the history of the two species should be cleared up, especially as some allied species are involved in the confusion.

Epidendrum secundum, Jacq., is a West Indian plant, which was briefly characterised in 1760 as "foliis caulinis oblongis; spicis secundis; tubo nectario longitudine corollae." The old figure "Plum. Ic. 184, f. 1" is cited, but this, as will be presently shown, does not agree with the character given, and must be excluded. Somewhat later the plant was fully described and figured by Jacquin (Sel. Stirp. Amer. p. 224, t. 137), the habitat being recorded as mountains of Martinique. Plumier's old figure is again erroneously cited, for it belongs to the species next described and figured by Jacquin (*E. anceps*, Jacq., l.c. p. 224, t. 138), a view which is amply confirmed by coloured figures he afterwards published.

In 1803 a West Indian plant which flowered in the collection of E. I. A. Woodford, Esq., of Vauxhall, was figured under the name of *Epidendrum elongatum*, Jacq., by Sims, who cited "*E. secundum*, Herb. Banks." as a synonym. Sims was confident that his plant was *E. elongatum*, Jacq., notwithstanding a difference in colour, his own plant being purple, while that of Jacquin was more of a vermilion. This view was a mistaken one, though the confusion has continued down to the present.

In 1838 a plant which flowered in the collection of Sir Charles Lemon, at Carclew, was described under the name *Epidendrum lacerum*, Lindl. It had been introduced from Havana, and appears to be only a form of this species. Cogniaux retains *E. lacerum* and cites Porto Rico, Sintenis, no. 4021, 6909, but the former number was not so distributed, and I am unable to distinguish it from *E. secundum*. The latter I have not seen.

Epidendrum elongatum, Jacq., was described in 1789, being based on material collected at Caracas. Jacquin pointed out that the plant was near his *E. secundum*, but that the flowers were not secund, and were different in structure. An excellent coloured plate afterwards appeared, which, in spite of the subsequent confusion, leaves no room for doubt as to the plant intended.

In 1845 Lindley described a species under the name of *Epidendrum Lindenii*, basing it upon a plant which flowered with Messrs. Loddiges, of Hackney. It had been collected by M. J. Linden, on rocks near Merida, at an altitude of 5000 ft. He cited Linden's field number 636, and remarked, "From the ticket attached to the dried specimens, we learn that the plant appears in the form of three well-marked varieties; in one the flowers are of a bright carmine, in another rose-coloured, and in

a third of a yellowish-orange," none, however, quite identical with Messrs. Loddiges' plant, which bore the number 603. Lindley afterwards explained (Fol. Orch., Epidendr. p. 72), that these remarks belong, in part at least, to some other plant, and it may be added that he cited Linden 636 under both *E. Lindenii*, Lindl., and (p. 73) *E. xanthinum*, Lindl., a mistake clearly arising from his having wrongly mounted a second specimen of Linden's no. 636 on the same sheet as the Brazilian *E. xanthinum*. Loddiges' no. 603 was not preserved, but a pen-and-ink sketch on the sheet may represent it, as it is labelled *E. Lindenii*, but without any details.

Krause bases his *E. sulfuratorium* principally upon the West Indian plant figured in Bot. Mag. t. 611, which he regards as distinct from *E. elongatum*, Jacq., but he makes *E. secundum*, Jacq., identical with *E. ellipticum*, Graham (Hook. Exot. Fl. ii. t. 207), which is a Brazilian plant, received from Rio in 1824, and even were it otherwise the name *E. sulfuratorium* would be invalidated.

Lindley regarded *E. ellipticum*, Graham, as distinct, and although he has sketched a flower of a St. Vincent specimen on his sheet of *E. ellipticum*, he does not cite it, and probably afterwards detected his mistake. Cogniaux retains *E. ellipticum*, Graham, as West Indian, citing specimens from Guadeloupe, St. Vincent and Trinidad, but I have not seen them.

The following are the references to the two species:—

Epidendrum secundum, *Jacq.*, Enum. Pl. Carib. p. 29, excl. fig. cit. (1760); Sel. Stirp. Amer. p. 224, t. 137, excl. syn. (1763); Linn. Sp. Pl. ed. 2, p. 1349; Jacq. Amer. Pict. t. 207; Jacq. Amer. Gewachse, t. 242; Cogn. in Urb. Symb. Antil. vi. p. 519, pro parte.

E. elongatum, Sims, Bot. Mag. t. 611 (1803) non Jacq.; Bauer, Ill. Orch., Fruct. t. 11, fig. 6–9 (seeds); Lindl. Gen. and Sp. Orch. p. 108; Lindl. Fol. Orch., Epidendr. p. 73.

E. lacerum, Lindl. Bot. Reg. 1838, Misc. p. 17; Lindl. Fol. Orch,, Epidendr. p. 74.

E. ellipticum, Reichb. f. in Bericht. Deutsch. Bot. Gesells. iii. p. 277 (non Grah.).

E. sulfuratorium, E. H. L. Krause in Beih. Centralblatt, xxxii. ii. p. 336.

Amphiglottis secunda, Salisb. Hort. Trans. i. p. 294 (1812).

E. elongatum, *Jacq.*, Coll. iii. p. 260 (1789); Jacq. Ic. Rar. ii. p. 17, t. 604.

E. Lindenii, Lindl. Bot. Reg. 1845, Misc. p. 48 (pro parte); Lindl. Fol. Orch., Epidendr. p. 72.

The old reference, *Helleborine purpurea, umbellata*, Plum. Nov. Pl. Amer., Cat. p. 9; Pl. Amer., ed. Burm. ii. p. 170, t. 184, fig. 1 (excl. syn. Rumph.), is probably a mixture. The plate represents *E. anceps*, Jacq. (*E. fuscatum*, Swartz), but the name *Helleborine purpurea* cannot refer to that, as the flowers are snuff-coloured. It is probable that the two have been confused under the same name.

X.—MISCELLANEOUS NOTES.

Mr. J. R. Bovell.—We learn that Mr. J. R. Bovell who, we were informed, was leaving Barbados for British Guiana (*K.B.* 1915, p. 411), has not left the colony and retains his post as Superintendent of the Local Department of Agriculture.

Count Solms-Laubach, F.M.R.S., who died on November 24th, 1915, in his seventy-third year, was a most eminent botanist who had many warm friends in England and was well known at Kew, which he first visited in the early 'sixties as a guest of Sir William Hooker. His work on the history of cultivated plants brought him into close touch with the work of Kew, and his well-known investigation of the famous fossil, *Bennettites Gibsonianus*, was partly made on material then in the possession of the Kew establishment. An illuminated address, signed by many of his botanical friends in this country was presented to Count Solms in 1912, on his attaining the age of seventy.

D. H. S.

Sir Clements R. Markham, K.C.B., F.R.S., geographer and explorer, whose death in his eighty-sixth year took place as the result of an accident, on 29th January, 1916, was during that portion of his public career spent in the service of the Board of Control, 1855-8, and the India Office, 1858-75, a regular correspondent of Kew. This is not the place to speak of his efforts to advance geographical knowledge, but his endeavours to promote the economic interests of the Empire call for more than passing notice.

One of the consequences of a journey in Peru undertaken by Markham in 1852 was to direct his attention to the problems connected with the supply of Cinchona Bark, and one of the results of his subsequent connection with the India Office was his deputation to South America, towards the close of 1859, in order to effect the introduction of the quinine-yielding Cinchona of that continent to the East Indies. In this enterprise Markham had as associates Dr. R. Spruce, whose share in the work may be gathered from Spruce's "Notes of a Botanist on the Amazon and Andes," posthumously edited by the late Dr. A. R. Wallace, to which reference has incidentally been made in this Bulletin (*K.B.* 1909, p. 162), and Mr. R. Cross, whose share in the task is dealt with in a special report published in 1862. The enterprise, which was successful, was dealt with further by Markham himself in a number of special reports published during his service under the Secretary of State for India, while its incidents and its results were well summarised by him in a popular work on "Peruvian Bark"—an interesting account of the introduction of Cinchona cultivation into British India. The particular kind of Cinchona—which word Sir Clements insisted ought to be written Chinchona—that now forms the basis of the industry in the East was not introduced by Markham or Spruce or Cross, but

this accidental circumstance in no way detracts from the merits of the enterprise which Markham had so much at heart.

More than a decade later Markham was equally interested in the efforts then being made by Kew to introduce Para Rubber from Brazil to the East Indies. He was an intermediary in the communication of seeds obtained by Mr. J. Collins from a Mr. Farris, of Cameta, in 1873 (*K.B.* 1914, p. 163), and he was instrumental in arranging for the subsequent deputation to Brazil of his former coadjutor Cross with the object of obtaining a supply of living plants. In this case also it so happened that the supply of seeds which enabled Kew to lay the foundation of the Rubber industry in our eastern possessions came from an independent source, but this again was an accident which leaves the merits of Markham and of Cross unaffected.

While at the India Office Markham was a not infrequent visitor to Kew. After his retirement his visits were few, though on the occasion of his last one, paid in 1910, his interest in Cinchona generally and its cultivation in India was just what it had been when he demitted work at the India Office in 1877.

Canon H. N. Ellacombe.—By the death of Canon Ellacombe at Bitton Vicarage, in his ninety-fourth year, on February 7th, 1916, the science of horticulture has lost one of its most ardent and successful devotees and the world is the poorer in the loss of a very lovable personality whose mind was a rich storehouse of ripe experience and sound learning.

In the favoured garden at Bitton a wonderful collection of plants had been gathered together both from botanic gardens and from private friends, and out of the garden plants were given away with a truly magnificent generosity. Not least among the charms of Bitton Vicarage was the library stored with rare botanical and horticultural books whose contents were as accurately and exactly known to their owner as were those of the borders in the garden. In addition to his horticultural interests the Canon was a classical scholar of no mean parts and possessed a wide knowledge of English literature. His book on the Plants of Shakespeare is a typical example of the mingling of his tastes and interests and is a scholarly work of very real value. Somewhat similar accounts of the plants of Gower, Chaucer, Milton, and Spenser were published recently by him in the *Gardeners' Chronicle*. The Canon was a prolific writer and possessed in particular a knowledge of old garden roses which formed the subject of some of his most interesting contributions. Under the hospitable roof of Bitton Vicarage keen lovers of plants from far and wide were always welcome and its unique and most truly botanic garden is enshrined in many hearts as "a pleasant spot." This is not the place to speak of the personal charm of Canon Ellacombe, but we mourn the loss of one who, though he almost attained the age of 94, was ever young and active in mind and retained until near the end the keen interest, retentive memory and fine intellect which filled his own life with happiness, and were ever a source of stimulus and enjoyment to his intimate friends.

The February Gale at Kew.—During the strong gale of February 16th, which reached its climax between noon and 3 p.m., considerable damage was done at Kew. Two Lombardy poplars growing in the long row of these trees that skirts the wall of the Kew Palace Grounds near the river, were blown across the wall. For many years a pair of Lombardy poplars standing at the river end of the Sion Vista, close to the ha-ha, have withstood the south-westerly gales to which the position is fully exposed. But this gale proved too much for one of them, which came down about 3 p.m. A large elm near Kew Palace, apparently in perfect health and quite sound, was uprooted, as was also another on the bank of the ha-ha near Brentford Gate. For a long time past only a shell of the trunk of the historical elm on Queen Elizabeth's lawn has remained, sufficient however to show its extraordinary size when the tree was in its prime. This tree is supposed to have associations with Queen Elizabeth. Part of the shell with its branches attached was blown out on February 16th and but little now is left. W. J. B.

Botanical Magazine for January.—The plants figured are *Eria ornata*, Lindl. (t. 8642), from Malaya; *Rhododendron erubescens*, Hutchinson (t. 8643), from Western China; *Chrysanthemum foeniculaceum*, Brouss. ex Willd. (t. 8644), a native of Tenerife, and *Funkia lancifolia*, Spreng. var. *tardiflora*, Hort. (t. 8645), probably from Japan.

Botanical Magazine for February.—The plants figured are *Eucharis Lowii*, Baker (t 8646), from West Tropical America; *Sophora macrocarpa*, Smith (t. 8647), from Chile; *Lobelia Holstii*, Engl. (t. 8648), from Tropical East Africa; and *Rhododendron hypoglaucum*, Hemsl. (t. 8649), from Western China.

Botanical Magazine for March.—The plants figured are *Aristolochia Lawrenceae*, N.E.Br. (t. 8650), from the Argentine; *Alpinia Elwesii*, Turrill (t. 8651), from Formosa; *Chamaedorea nana*, N.E.Br. (t. 8652), from Costa Rica; and *Androsace coccinea*, Franch. (t. 8653), from S.W. China.

Illustrations of New Zealand Plants.—This is the title of a handsome botanical work of two quarto volumes, issued by the Educational Department of the Government of New Zealand, as an atlas to Mr. T. F. Cheeseman's "Manual of the New Zealand Flora," which appeared in 1906. Equipped with these two publications, the student, possessing a knowledge of the rudiments of classification, will be able to identify most of the

important native flowering plants and ferns of New Zealand, without other help. The plates number 250, and the selection of subjects seems to have been made with sound judgment and such a complete knowledge of the flora as probably no other than the author can claim. Upwards of seventy families are illustrated and a proportionate number of genera and species. Characteristic families, genera and species preponderate. Umbelliferae occupy 12 plates; Compositae, 33; Epacridaceae, 9; Scrophulariaceae, 12; Orchidaceae, 9; Cyperaceae, 9; Gramineae, 17, and Ferns, 15. By this means the leading genera are identifiable from figures, and others partly by elimination. On the other hand 32 families are represented by one plate each. Large genera are represented by a selection of species covering the whole chain and extremes of differentiation. Thus, of Ranunculus, 5 species are given; of Carmichaelia and allies, 7; Epilobium, 5; Coprosma, 6; Olearia, 7; Celmisia, 7; Dracophyllum, 4; Gentiana, 5; Myosotis, 5; Veronica, 10, and Pimelea, 4. No formal descriptions are given of the plants figured, but the letterpress is replete with information of a useful and interesting character, varying in length from one to rarely half-a-dozen pages—the Kauri, for example.

In consequence of the impossibility of finding a competent botanical artist in New Zealand, arrangements were made with Kew for the drawings and lithographs to be done at the Herbarium, under the supervision of Dr. W. Botting Hemsley, from specimens supplied by Mr. Cheeseman. All the drawings were made by the Kew Artist, Miss Matilda Smith; the lithographs by Mr. J. N. Fitch, and the printing was done by Messrs. West, Newman & Co. As to the quality of the plates, it may be asserted that they are excellent and well adapted for educational purposes, the detail being exceptionally good. On this point Mr. Cheeseman expresses himself in the following words:—"I think that all capable judges will agree with me in saying that the plates contained in these volumes will enhance her already well-earned reputation."

Flora of the Nilgiri and Pulney Hill-tops.—In his Preface, dated November, 1897, to the last volume of the *Flora of British India*, Sir Joseph Hooker expressed the hope that his great work would "facilitate the compilation of local Indian Floras." He had already mentioned those which had appeared during its publication, the chief of which were: As a General Flora, Dr. Trimen's *Handbook of the Ceylon Flora*, which he himself completed after Dr. Trimen's death; and, as Forest Floras, Mr. Kurz's *Forest Flora of Burma*, Dr. Brandis' *Forest Flora of North-West and Central India*, and Col. Beddome's *Flora Sylvatica of Southern India and Ceylon*.

Since Sir Joseph Hooker wrote in 1897 much work has been done for Indian local Floras; of General Floras, Dr. Cooke's *Flora of the Presidency of Bombay*, and Sir D. Prain's *Bengal*

Plants have appeared, Mr. J. F. Duthie's *Flora of the Gangetic Plain* is approaching completion, and a *Flora of the Madras Presidency* has been begun; while of Forest Floras there have been published Mr. H. H. Haines' *Forest Flora of Chota Nagpur*, Mr. T. F. Bourdillon's *Forest Trees of Travancore*, and Rai Bahadur Upendramatu Kanjilal's *Forest Flora of the Siwaliks and Jaunsar* in the United Provinces. Relating to a less wide area, Sir Henry Collett's *Flora Simlensis*, designed to help residents at Simla interested in Botany to identify the plants they may meet with in their walks about the Hill Station of Simla, appeared in 1902, and now has just appeared, prepared with a similar object, a *Flora of the Nilgiri and Pulney Hill-tops*, by Mr. P. F. Fyson, the Professor of Botany in the Presidency College at Madras.

Mr. Fyson's book consists of two volumes, one for the letterpress of his Flora, the other for selected drawings illustrating the chief Families and Genera and the more characteristic plants of his area. That area "consists of the two plateaus, especially of the parts from Kotagiri to Ootacamund (Nilgiris) and near Kodai Kanal (Pulneys), which range from 6500 to 8500 ft. above sea-level." The number of species described is nearly 500, of which 430 are considered indigenous, and it certainly is one of the notable features of the book that it includes so many plants which have succeeded in acclimatizing themselves in the beautiful climate of the South Indian mountains. Visitors to those mountains are at once struck by the number of introduced plants. Apart from the Australian trees, chiefly Eucalyptus and Acacia, that now replace many of the indigenous woods, the visitor may see the Gorse and Broom, the Calla Lily, *Zephyranthes*, Pelargoniums, species of *Oxalis*, the Foxglove, American Verbenas, *Fuchsia fulgens*, two brightly-flowered Cassias, and perhaps most conspicuous of all, but not mentioned by Mr. Fyson, seedling Dahlias of every shade of red and yellow. It was quite right to include most of these as they have clearly come to stay.

About eleven new species are published, four species of *Eriocaulon*, three of *Crotalaria* and one each of *Lasianthus*, *Anaphalis*, *Olea*, and *Aneilema*, but the diagnoses of most, if not all of them, have already appeared in the *Kew Bulletin*.

The book is largely interspersed with notes of interest on floral mechanism and economic properties, for the benefit of those who use the book, but in some cases the editing seems to have been rather careless, as, for instance, under Rhododendron, where it is stated that "the Rhododendrons of English gardens have nearly all sprung from seed collected by the late Sir Dr. J. H. Hooker (*sic*) in the Sikkim Himalaya" and under *Viscum* that *Viscum japonicum*, Thunb. (Mr. Fyson has overlooked the writings of Van Tieghem and Engler which have ended in this plant being now referred to *Korthalsella*) "grows on *Eurya Rhododendron*, *Microcarpa*, *ovalifolia*, *etc.*" Presumably, the two latter are intended for two well-known species of *Microtropis*.

The drawings which comprise the second volume are rather

unequal in execution, but many of them are very good representations of the plants and will be most useful helps in the speedy identification of specimens collected. The greater number of these illustrations were prepared by Lady Bourne as accompaniments to the Herbarium formed by herself and her husband, Sir A. G. Bourne, F.R.S., lately Director of Public Instruction in Madras, by Mrs. Harrison, Mrs. Paton, Mrs. Fyson, by a young Indian artist Mr. R. Natesan, and by others, while Mr. Fyson himself seems to have contributed a great many. It is satisfactory to know that the Bourne Collection, chiefly of Pulney plants, has been presented to the Kew Herbarium, where the specimens should prove most useful, as the Pulney Hills have hitherto been somewhat poorly represented.

J. S. G.

The Cherries of New York.*—This work, a copy of which has lately been presented to the Library of the Royal Gardens, Kew, by the Director of the New York Agricultural Experiment Station, Geneva, N.Y., is the fourth of a series of monographs on popular fruits published by that institution. A notice of the previous one, *The Plums of New York*, appeared in the *Kew Bulletin*, 1912, p. 112. The very favourable terms in which that work was written of can only be repeated in the present instance. The botany of the common fruiting cherries as compared with that of the plums cultivated in North America is quite simple, for they have been derived almost wholly from two species, viz., *Prunus Avium*, the sweet cherry, and *P. Cerasus*, the sour cherry. *P. acida*, if considered to be a distinct species, would make a third, but it is usually regarded as a form of *P. Cerasus*. A single cultivated variety, "Early May," is also said to have been derived from the ground cherry, *P. fruticosa* (*P. Chamaecerasus*). North American cherry orchards are, therefore, almost entirely dependent on varieties derived from European species. The only New World cherry which has hitherto been shown to have much value as a fruit is *Prunus Besseyi* (Bot. Mag. t. 8156). Mr. Hedrick devotes about one hundred pages of his work to a most interesting discussion of his subject in its broad phases—historical, botanical and cultural. The first mention of the cherry in literature appears to have been by Theophrastus, writing about the year 300 B.C. Even then there is evidence that the cherry had been cultivated for several centuries. It was introduced to North America by the early settlers, and in 1909 we are informed that there were close upon twelve millions of fruit-bearing trees in the United States, which bore over four millions of bushels of fruit. Since then the industry has greatly increased. Perhaps the most important part of the work is Chap. iv., running to 108 pages. In this is given a description of all the leading varieties of cherry alphabetically

* The Cherries of New York. By U. P. Hedrick, New York Agricultural Experiment Station, Geneva, 1915, pp. 371, 400, with 56 coloured plates and portrait frontispiece.

arranged, fifty-six of them illustrated by admirable coloured plates. In addition to the description the history of each variety is given, together with notes on its qualities and cultivation. It is difficult to see how this part of the work could have been better done.

Although one might infer from the title that the work dealt chiefly, or only, with the subject from the point of view of New York State, it has really great value and interest not only for the whole of North America, but wherever the cherry is cultivated. No work, we believe, hitherto published vies with it in comprehensiveness.

W. J. B.

Drugs and Preparations.*—The disorganisation of Continental markets, causing irregularity or entire stoppage of supplies of many familiar products, including drugs, has directed attention to other possible sources or substitutes to meet the demand. In this connection the advent of the second edition of Potter's Cyclopædia is opportune, especially as it deals not alone with officinal drugs but also with many others more or less familiar to the herbalist. The information given is concisely arranged, as the following example will fully illustrate:—

Canella. Canella alba, Murray.
N.O. *Canellaceae.*

Syn.—White Cinnamon.

Part used.—Bark.

Action.—Aromatic, stimulant, tonic. Useful in enfeebled conditions of the stomach and intestines. Generally given in combination with other stomachics. Dose, 10–40 grains.

Preparation.—Pulv. Aloes cum Canella (Hiera Picra). Dose, ¼–1 drachm.

Distinctive character.—Bark fawn coloured externally, chalky-white on inner surface, in quilled pieces ¼–1½ in. in diameter. Transverse fracture short, whitish with numerous bright orange-yellow dots composed of resin cells. Taste, biting, aromatic, slightly recalling that of cinnamon. Odour, aromatic.

The work is clearly printed, has a good index and a glossary of botanical terms. One omission of importance may be noted, viz., the geographical origin or sources of supply.

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* Potter's Cyclopædia of Botanic Drugs and Preparations. By R. C. Wren, F.L.S., with additions by E. M. Holmes, F.L.S. Second Edition. Pp. xl. + 339. Price 3s. 6d. Published by Potter & Clarke, Ltd., 60, 62 and 64, Artillery-lane, London, E.